

REMARKS

The specification has been amended as indicated above to correct typographical errors, to delete the inadvertent inclusion of Example 8, and to reclassify two of the Examples as Comparative Examples. Claims 1-12 were pending in the subject application. Applicants have canceled claims 3-5 and 8 without disclaimer or prejudice to applicants' right to pursue the subject matter of these claims in this or a later application. Applicants have also amended claims 1, 6, 7 and 11. The amendments to claim 1 are fully supported in the specification at, for example, page 7, lines 11-13, page 11, lines 15-18, and original claims 3 and 5, whereas the amendments to claim 7 are supported at page 14, lines 10-15. The other claim amendments merely involve formatting changes and amendments to correct claim dependencies necessitated by the cancellation of certain claims. Thus, the above amendments do not raise any issue of new matter. Accordingly, applicants respectfully request that this Amendment be entered into the application. Upon entry of this Amendment, claims 1, 2, 6, 7, and 9-12, as amended, will be pending and under examination.

Rejection of Claims 1-3 and 5-7 under 35 U.S.C. §102(b) or §103(a)

The Examiner rejected claims 1-3 and 5-7 under 35 U.S.C. §102(b) as allegedly anticipated by, or, in the alternative, under 35 U.S.C. §103(a) as allegedly obvious over U.S. Patent No. 5,147,944 ("Takeda"). The Examiner stated that Takeda discloses toughened polyamide resin compositions and exemplifies various formulations that meet the terms of the present claims, and that it is reasonably believed that the compositions disclosed by Takeda would possess the same impact strength and permeability properties recited in claim 7, given their chemical similarity to that presently claimed. The Examiner further stated that, given their excellent properties, it would be reasonably expected, by one having ordinary skill, that the reference compositions would necessarily be capable of having the same utility for fuel system parts as the presently claimed products.

Applicants respectfully traverse this rejection. Applicants note that claims 3 and 5 have been canceled, rendering the rejection thereof moot. However, applicants address the rejection of these claims to the extent their subject matter has been incorporated into claim 1.

Applicants note that independent claim 1, as amended herein, is directed to a material for a fuel system part comprising, as an essential component, a polyamide resin (A) selected from the group consisting of (a) a poly-meta-xylylene pimelamide resin (e.g., MXD-7); (b) a

polyamide resin comprising meta-xylylenediamine, terephthalic acid and adipic acid (e.g., MXD-6T); (c) a polyamide resin comprising meta-xylylenediamine, cyclohexanedicarboxylic acid and adipic acid (e.g., MXD-6CHDA); and (d) a copolymer thereof and a blend thereof. Applicants emphasize that the now pending claims do not recite a polyamide resin (A) consisting of a poly-meta-xylylene adipamide resin (MXD-6). In contrast, applicants note that Takeda discloses a C₆-C₂₀ α,ω -linear aliphatic dibasic acid as the dicarboxylic acid component of a polyamide. Concrete examples thereof include adipic acid, sebacic acid, suberic acid, dodecanedioic acid and eicodioic acid (see col. 3, lines 32-43), while only MXD-6, comprising adipic acid as a dicarboxylic acid component, is disclosed in the Examples. Thus, Takeda does not disclose a composition comprising any of components (a) - (d).

In order to anticipate, a prior art reference must describe each and every element of a claim. *See M.P.E.P. §2131*, citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) (“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.”) Since Takeda does not disclose each and every element of claim 1, as amended, applicants maintain that the now pending claim 1 is not anticipated by Takeda. Claims 2, 6, and 7 depend from claim 1 and therefore recite all the elements of claim 1. Accordingly, claims 2, 6, and 7 are also not anticipated by Takeda.

Regarding the rejection of the claims as obvious over Takeda, applicants note that three basic criteria must be met in order to establishing a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge of a skilled artisan, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference, or references when combined, must teach or suggest all the claim limitations. *See M.P.E.P. §2142*. Applicants maintain that the now pending claims are not obvious over Takeda for the reasons set forth below.

Applicants reiterate, as noted above, that Takeda does not teach every element of the rejected claims. Further, applicants note that in contrast to the use of MXD-6 as described in Takeda, the invention recited in claim 1, as amended herein, relates to a material for a fuel system part, having properties of both (1) superior impact strength at a low temperature of -40°C, and (2) a superior alcohol-containing gasoline barrier. Thus, the object of the present

invention is to provide a fuel tank satisfying the impact strength and alcohol-containing gasoline barrier property by an injection molding of a monolayer, which is an economical fuel tank permitting a wide range of shape designs, *See, e.g.*, the specification, page 2, lines 24-30; and page 27, lines 15-27. Additionally, in comparison to the use of MXD-6 described in Takeda, the polyamide resin to be used in the claimed invention exhibits superior properties both with regard to impact strength at a low temperature of -40°C, and as an alcohol-containing gasoline barrier.

These superior properties are illustrated in the figure attached hereto as **Exhibit A**, which shows the relationship between the [izod impact strength (J/m) at -40°C] (“Izod Impact”) and [alcohol-containing gasoline barrier property] (“Permeability”) for different polyamide resins as disclosed in the Examples and Comparative Examples of the specification, Tables 1-6, as amended. In the figure, the numeral values in parentheses show the amount (%) of resin (B). The plotted open circles in the upper left of the figure show resins that are superior in both Izod Impact and Permeability. These open circles represent compositions exemplified in the present invention, whereas the filled circles represent compositions outside the scope of the present invention. Applicants note that all plots of the compositions exemplified in the present invention are located above and to the left of the line connecting MXD-6(0), MXD-6(20), MXD-6(35) and MXD-6(67). That is, the Examples of the present application, except Example 8, are superior in the permeability and Izod impact to the Comparative Examples (including former Examples 2 and 7, now Comparative Examples 7 and 8, respectively). Thus, it is clear that the use of polyamide resin of the present invention is superior with regard to both impact strength at a low temperature and as an alcohol-containing gasoline barrier, compared to the use of MXD-6 described in Takeda.

In addition, the material for a fuel system part of the present invention can afford an impact strength at a low temperature by blending a specified amount of polyolefin resin (B) having a glass transition temperature lower than that of the polyamide resin (A) and a functional group capable of reacting with the polyamide resin (A), and finely dispersing the resin (B) in polyamide resin (A) (matrix component) as a domain component. In this way, a material exhibiting superior properties relating to both impact strength at low temperature and alcohol-containing gasoline barrier can be obtained.

Applicants assert that Takeda teaches neither the objective nor effect of the present invention, which is to provide a material for a fuel system part exhibiting superior impact

strength at a low temperature of -40°C and a superior alcohol-containing gasoline barrier property. Accordingly, applicants maintain that a person of ordinary skill in the art, provided with the teachings of Takeda, would not conceive the material of the present invention. That is, the references provide no suggestion or motivation to (1) replace the disclosed MXD-6 by the polyamide resin of the present invention instead of, or (2) blend a specific amount of polyolefin resin (B) having a glass transition temperature lower than that of the polyamide resin (A) and a functional group capable of reacting with the polyamide resin (A). The skilled artisan would also have no reasonable expectation, based on Takeda, that such modifications of the reference teachings would be successful. Accordingly, for at least the above reasons, applicants maintain that claim 1, and claims 2, 6, and 7 dependent therefrom, are not obvious over Takeda. Applicants therefore respectfully request that the Examiner withdraw this ground of rejection.

Rejection of Claims 1-3, 5-7 and 9-12 under 35 U.S.C. §102(b) or §103(a)

The Examiner rejected claims 1-3, 5-7, and 9-12 under 35 U.S.C. §102(b) as allegedly anticipated by, or, in the alternative, under 35 U.S.C. §103(a) as allegedly obvious over U.S. Patent No. 6,887,581 (“Tamura”). The Examiner stated that it is reasonably believed that the compositions disclosed by Tamura would possess the same impact strength and permeability properties as recited in claim 7, given their chemical similarity to that presently claimed.

Applicants respectfully disagree. First, to correct the record, applicants respectfully point out to the Examiner that the earliest publication date of Tamura is December 26, 2002 (U.S. Publication No. 2002/0197495 A1), whereas the filing date of the subject application is the international filing date of December 8, 2003. Since Tamura was published less than one year prior to the filing date of the present application, applicants note that Tamura is not prior art under 35 U.S.C. §102(b).

Claims 3 and 5 have been canceled, rendering the rejection thereof moot. However, applicants respond to the rejection of these claims to the extent their subject matter has been incorporated into claim 1.

Applicants again note that independent claim 1, as amended herein, is directed to a material for a fuel system part comprising, as an essential component, a polyamide resin (A) selected from the group consisting of (a) a poly-meta-xylylene pimelamide resin (e.g., MXD-7); (b) a polyamide resin comprising meta-xylylenediamine, terephthalic acid and adipic acid

(e.g., MXD-6T); (c) a polyamide resin comprising meta-xylylenediamine, cyclohexanedicarboxylic acid and adipic acid (e.g., MXD-6CHDA); and (d) a copolymer thereof and a blend thereof. In contrast, applicants note that Tamura does not disclose a composition comprising any of components (a) - (d), and in fact, only discloses MXD-6, comprising meta-xylylenediamine as a diamine component. Accordingly, applicants maintain that Tamura does not anticipate the claims since this reference does not teach every element of the rejected claims.

Applicants also maintain that Tamura does not render the claims obvious for the reasons set forth in detail above in responding to the obviousness rejection over Takeda. Briefly, applicants assert that the claimed invention relates to a material for a fuel system part, having superior properties both with regard to impact strength at a low temperature of -40°C, and as an alcohol-containing gasoline barrier, in comparison to the MXD-6 described in Tamura. Applicants maintain that a skilled artisan, provided with the teachings of Tamura, would not (1) conceive the material of the present invention, (2) be motivated to modify the teachings of Tamura to make the claimed materials, and (3) have any reasonable expectation of success in so modifying the reference teachings. Accordingly, applicants maintain that claim 1, and claims 2, 6, 7, and 9-17, dependent directly or indirectly therefrom, are not obvious over Takeda. Accordingly, withdrawal of this ground of rejection is respectfully requested.

Rejection of Claims 9-12 under §103(a)

The Examiner rejected claims 9-12 under 35 U.S.C. §103(a) as allegedly obvious over Takeda in view of Tamura. The Examiner stated that the production automobile parts, such as fuel tanks, etc., from polyamide compositions similar to Takeda's compositions is well known from the teaching of Tamura. The Examiner further asserted that in light of these teachings, it would have been obvious to one having ordinary skill in the art to have produced automobile parts such as fuel tanks from Takeda's polyamide composition with a reasonable expectation of success.

Applicants respectfully disagree, and assert that these rejection are moot in view of the amendment to the claims. As set forth above, applicants maintain that the material for a fuel system part of the now claimed invention is vastly different in composition and properties from the MXD-6 disclosed in Takeda and Tamura. The teachings of Takeda and

Tamura, in combination with the knowledge of an ordinarily skilled artisan, provide no suggestion, motivation or expectation of success, that would lead the skilled artisan to make the claimed materials. Accordingly, the combination of Takeda and Tamura does not result in the claimed invention. That is, automobile parts, such as fuel tanks, produced from Takeda's polyamide composition do not equate to the fuel system parts recited in claims 9-12. Applicants therefore respectfully submit that claims 9-12 are not obvious over Takeda in view of Tamura, and request that this ground of rejection be withdrawn.

Rejection of Claim 2 under §103(a)

The Examiner rejected claim 2 under 35 U.S.C. §103(a) as allegedly obvious over Tamura. The Examiner stated that absent evidence of unusual or unexpected results, no patentability can be seen in the presently claimed particle size.

Applicants respectfully disagree, and assert that, for the reasons set forth above, this rejection is moot in view of the amendment to claim 1 from which claim 2 depends. Accordingly, withdrawal of this ground of rejection is respectfully requested.

CONCLUSION

In view of the above remarks, applicants respectfully request that the Examiner reconsider and withdraw the rejections set forth in the July 2, 2007 Office Action. In this regard, applicants acknowledge the Examiner's statement that previously pending claims 4 and 8 would be allowable if rewritten in independent form. Since the subject matter of claims 4 and 8 has been incorporated into claim 1, the sole independent claim, applicants respectfully submit that the now pending claims are in condition for allowance, which action is earnestly solicited.

No fee is deemed necessary in connection with the filing of this Amendment. However, in the event that the filing of this paper is deemed not timely, applicants petition for an appropriate extension of time. The Office is authorized to charge such petition fee and any other fees that may be required in relation to this paper to Kenyon & Kenyon Deposit Account No. 11-0600.

Respectfully submitted,
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EXHIBIT A

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